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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,740	12/20/2004	Herman G Dikland	4662-332	4882
23117 7590 06/25/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
			EXAMINER SELLERS, ROBERT E	
			ART UNIT 1712	PAPER NUMBER
			MAIL DATE 06/25/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/501,740	Applicant(s) DIKLAND ET AL.	
	Examiner Robert Sellers	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>16 July 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 15, 20, 21 and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Dahlmann et al. Publication No. 2004/0030206 (allowed April 16, 2007).

1. Dahlmann et al. reports the treatment of multiphase mixtures containing water, gas and condensate (page 1, paragraph 1) transported through a pipeline (page 1, paragraph 4) with a comb polymer of an alkoxyalkylated (meth)acrylate (page 2, paragraph 23) having a molecular weight of preferably from 1000 to 40,000 g/mol (page 3, paragraph 44) which is oil soluble (page 2, paragraph 30) due to a longer alkyl radical R² on the structural unit of formula (1) (page 1, paragraph 13), a lower ethylene oxide content, or when using propylene or butylene oxide as the polyoxyalkylene glycol which forms the alkoxyalkoxylated (meth)acrylate.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruka et al. Patent No. 3,687,148; Seymour et al. Patent No. 3,559,664 and Alink et al. Publication No. 2002/0063241.

2. Kruka et al. (col. 2, lines 7-21) sets forth a method of reducing friction during the flow of non-aqueous liquids such as mixtures of petroleum and liquefied natural gas (col. 2, lines 33-37) by adding a A-B block polymer derived from alpha mono-olefin copolymers (col. 3, line 33, block type c.) or grafted blocks of monomer such as maleic anhydride (col. 2, line 59) on a second polymer block such as an alpha mono-olefin (col. 3, lines 39-40, block type h.), wherein the A block possesses a molecular weight of as low as about 50,000 and the B block has a molecular weight of as low as about 500.

3. Seymour et al. discloses a process of reducing friction during the flow of a hydrocarbon liquid such as gasoline or crude oil through pipelines (col. 1, lines 5-7) by the addition to the gasoline or crude oil of an ethylene-propylene block copolymer having intrinsic viscosities ranging from 3.7 (col. 2, Table 1, Polymer compound I) to 10.7 (Table 1, Polymer compound J and col. 3, Table 2, ethylene proportion of 81 mol%). The intrinsic viscosity range of from 3.7 to 10.7 inherently yield ethylene-propylene block copolymers with molecular weights within the claimed broad parameters of at most 400 kg/mol, or 400,000 g/mol.

The intrinsic viscosity range of from 3.7 to 10.7 inherently yield ethylene-propylene block copolymers with molecular weights within the claimed broad parameters of at most 400 kg/mol, or 400,000 g/mol. The block copolymer contains from 10-90 percent of ethylene blocks and from 10-90 percent of propylene blocks (col. 1, lines 54-56).

4. The claimed methods of Kruka et al. and Seymour et al. do not recite the claimed multiphase system. Alink et al. describes the reduction in friction in turbulent flow through pipes (page 1, paragraph 6) including high molecular weight oil-soluble polymers (page 1, paragraph 8) for multiphase flow systems including a gas phase with a hydrocarbon liquid phase (page 1, paragraph 9).

5. It would have been obvious to incorporate the alpha mono-olefin block copolymer of Kruka et al. or its maleic anhydride grafted counterpart, wherein the alpha mono-olefin block copolymer is composed of the ethylene and propylene blocks of Seymour et al., as the high molecular weight oil-soluble polymer of Alink et al. in order to reduce the friction during turbulent high speed or high pressure flow through the pipelines (Kruka et al. col. 8, lines 3-8) and to decrease the pressure drop due to liquid flow and friction loss (Seymour et al., col. 1, lines 22-23 and 31-34).

6. It would have been obvious to use the alpha mono-olefin block copolymer of Kruka et al. or its maleic anhydride-grafted derivative wherein the alpha mono-olefins comprise the ethylene and propylene of Seymour et al., or the ethylene-propylene block copolymer of Seymour et al., in the gasoline, petroleum or oil liquid phase along with the gas phase of Alink et al. for the reasons espoused in the previous paragraph.

Claims 15-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jovancicevic et al. Patent No. 6,774,094 in view of Gibson Patent No. 3,351,079.

7. Jovancicevic et al. (col. 1, lines 16-19) reports the use of poly(alpha-olefin) copolymers to reduce the drag of a hydrocarbon flowing through a conduit wherein drag reducer agents (DRAs) are utilized in multiphase flowlines such as oil/water/gas systems (col. 2, lines 27-30).

8. The claimed weight average molecular weight of at most 400,000 g/mol is not recited. Gibson teaches an amorphous copolymer of from 20-75 mole percent of ethylene, from 25-80 mole percent of propylene, and, optionally, butene-1 (col. 2, lines 6-15) with a molecular weight of from 100,000 to 1,000,000 (col. 2, lines 24-28) wherein values ranging from 114,000 to 169,000 are exemplified (page 4, Example 1, Table 1). The ethylene-propylene copolymer is added to oil (col. 1, line 61 to col. 2, line 6) to reduce the fluid loss and control the viscosity (col. 1, lines 47-54).

9. It would have been obvious to use the ethylene-propylene copolymer of Gibson as the poly(alpha-olefin) copolymer of Jovancicevic et al. in order to reduce the fluid loss and control the viscosity.

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The prior art made of record and not relied upon is considered pertinent to the disclosure.

10. German Patent No. 10,163,260 (Derwent abstract is drawn to the transport of multiphase mixtures comprising gaseous and liquid phases wherein a vinyl acetate copolymer is added to the aqueous phase.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

/Robert Sellers/

Robert Sellers
Primary Examiner
Art Unit 1712

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6/14/2007